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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/628,777

07/28/2003

Takeshi Fujimoto

12852-017001

4507

26211

7590

02/07/2006

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EXAMINER

PAK, SUNG H

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/628,777	Applicant(s) FUJIMOTO ET AL.	
	Examiner Sung H. Pak	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-8 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/17/2005 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Sato et al (US 6,974,263 B2).

Sato discloses an optical device comprising: one or more dielectric wiring substrate (i.e. printed circuit board- '4' Fig. 16A) and a chassis ('10' Fig. 15B); said one or more dielectric wiring substrates having an optical transmitter section, an optical receiver section, or an optical transceiver section provided thereon (column 1 lines 24-28); the chassis encasing all of the dielectric wiring substrate including said optical transmitter section, said optical receiver section or said optical transceiver section provided thereon (Fig. 15B); at least one of said dielectric

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wiring substrate having a metal part formed on one side thereof ('2' Fig. 16A), said metal part being exposed as an outermost surface of the chassis (Fig. 16A);

wherein said at least one dielectric wiring substrate having the metal part formed on one side comprises a metal base substrate (column 1 lines 34-40).

Claims 1, 4-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Bartur et al (US 2003/0147601 A1).

Bartur discloses an optical device comprising: one or more wiring substrates (i.e. flexible circuit boards '14', '16' Fig. 1A) and a chassis ('11' Fig. 1A); said one or more dielectric wiring substrates having an optical transmitter section, an optical receiver section, or an optical transceiver section provided thereon (paragraph 0021); the chassis encasing all of the dielectric wiring substrates including said optical transmitter section, said optical receiver section or said optical transceiver section provided thereon (Fig. 1B; paragraph 0021); at least one of said dielectric wiring substrates having a metal part formed on one side thereof, said metal part being exposed as an outermost surface of the chassis ('12' Fig. 1B);

wherein the dielectric wiring substrates are thermally separated from each other (Fig. 1B);

wherein said chassis has one or more vents ('234' Fig. 3C);

wherein said one or more dielectric wiring substrate comprise multilayer wiring substrate (Fig. 5B) and an exposed surface of a grounding layer (grounding layer '340' is exposed at the outer edges of '230' as shown in Fig. 3B) has a metal plate adhered thereto ('220' Fig. 3B-

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paragraph 0022) said metal plate being in thermal contact with the metal part of the chassis (Fig. 2A).

Regarding claim 7, the claimed limitations are anticipated by Bartur, because the metal plate of the chassis '220' is made of metal and inherently acts as a heatsink.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bartur et al (US 2003/0147601 A1) in view of Sato et al (US 6,974,263 B2).

Bartur discloses an optical device with limitations as discussed above. Nevertheless, Bartur does not disclose that the supporting layer '300' is made of metal material (which would anticipate limitations of claim 8). However, making the supporting layer out of metallic material is known in the art, as taught by Sato (refer to discussion above). Metallic support layer would be considered advantageous and desirable in the art because it would allow for better RF isolation which would improve the performance of optoelectronic devices disposed on the circuit board. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Bartur to have metallic support layer as taught by Sato.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bartur et al (US 2003/0147601 A1).

Bartur discloses an optical device with limitations as discussed above. However, Bartur does not explicitly teach that the dielectric wiring substrates are thermally connected together through the metal part of the chassis, since it is silent as to whether the rigid support element '212' is made of metal ('212' being metal would satisfy the claimed limitation since '220' and '212' would conduct heat and thus thermally connect dielectric substrates).

However, it is well known in the art to make rigid support elements out of metallic material in order to provide durable, mechanically strong support element. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Bartur to have metallic support element (which would thermally couple the dielectric wiring substrates).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (571) 272-2353. The examiner can normally be reached on Monday- Friday, 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571)272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Sung H. Pak', with a stylized flourish extending to the right.

Sung H. Pak
Primary Patent Examiner
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